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ABSTRACT

The neuropsychological deficits which are found in a significant number of alcoholics participating in the rehabilitation process have been well documented. Recent concern has also been voiced that cognitive impairments present in alcoholics receiving treatment are more severe than what has been perceived through clinical observations. Unfamiliarity with these important findings may result in the formulation of an alcohol and other drug use evaluation and treatment plan which are not designed to address cognitive impairments present in clients. If a person is to benefit from an alcoholic treatment regimen which incorporates various educational and counseling formats, it is essential that the client be able to assimilate and accommodate new information designed to effect prosocial behavioral change. A review of case studies and research findings also indicated that various neuropsychological tests are sensitive to measuring cognitive deficits present in alcoholics receiving treatment. The utilization and careful analysis of these tests may allow for: (1) a more accurate assessment of alcoholism; (2) a descriptive evaluation of the specific cognitive deficits; (3) prescriptive suggestions for treatment; and (4) a more comprehensive understanding of the impact of these deficits on the client's performance in treatment, the outcome of the rehabilitation process, subsequent employment, and driving a motor vehicle. (Author/LLL)

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ARE ALCOHOLIC CLIENTS COGNITIVELY COMPETENT TO PARTICIPATE IN THEIR REHABILITATION PROGRAM?

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ABSTRACT

The neuropsychological deficits which are found in a significant number of alcoholics participating in the rehabilitation process have been well documented. Recent concern has also been voiced that cognitive impairments present in alcoholics receiving treatment are more severe than what has been perceived through clinical observations. Unfamiliarity with these important findings may result in the formulation of an alcohol and other drug use evaluation and treatment plan which is not designed to address cognitive impairments present in clients.

A review of case studies and research findings also indicated various neuropsychological tests are sensitive to measuring cognitive deficits present in alcoholics receiving treatment; and possibly resulting from chronic alcoholic consumption. The utilization and careful analysis of these tests may allow for: a more accurate assessment of alcoholism; a descriptive evaluation of the specific cognitive deficits; prescriptive suggestions for treatment; and a more comprehensive understanding of the impact of these deficits on the client's performance in treatment, the outcome of the rehabilitation process, subsequent employment, and driving a motor vehicle.

BACKGROUND

Lezak (1983) professed neuropsychological studies have substantiated that various and separate intellectual functions collaborate in an interdependent manner within an intact brain and create the appearance of a single attribute. The author further stated these studies have redefined early perceptions on intelligence; no longer is intelligence viewed as a single or unitary variable. In this same text Lezak also argued that IQ scores alone are not useful in portraying the intellectual abilities of persons with brain damage since the score may obscure a specific deficit.

Redefining the concept of intelligence has also served as an impetus for attempting to determine essential components of a neuropsychological evaluation. The intricacies of current neuropsychological thought towards what constitutes appropriate evaluation techniques were pointed out by Lezak in her position which recognized: "... brain damage as a measurable multidimensional phenomenon that requires a multidimensional examination approach." (p. 17). Other authors have also emphasized that a neuropsychological assessment required the use of standardized test batteries which encorporate an intelligence test and various neuropsychological tests for assessing cognitive dysfunction, since no individual test can adequately evaluate the presence and degree of cognitive impairment (Boll et al, 1981; and Echardt & Martin, 1986). Echardt and Martin particularly asserted that the:

> "assessment of cognition for clinical purposes is best

> achieved through standardized intelligence tests and those neuropsychological test batteries which have been demonstrated to provide valid measures of the organic condition of the brain." (p. 123).

While noting that clinical neuropsychology is founded on emperically based knowledge pertaining to brain-behavior relationships, Hartlage (1987) also reported that a consensual agreement did not exist regarding what constitutes an appropriate neuropsychological assessment. Finally, Lewindowski (1987) cautioned about the complexity of the relationship between the brain and behavior in his statement that "... neurological patients do not behave in accordance with the textbook." (p. 21).

Neuropsychological research has consistently demonstrated that specific tests are sensitive to measuring cognitive dysfunction (Chelune & Parker, 1981; Goldman, 1983: Parsons, 1977; Reitan & Wolfson, 1985; and Tarter & Edwards, 1987). Some standardized tests cited for being sensitive to and capable of assessing the presence and level of cognitive deficits within individuals follow: subtests of the WAIS-R (i.e., Block Design, Digit Symbol, Object Assembly, and Picture Arrangement); the Wechsler Memory Scale - Revised; the Halstead Reitan Battery; the Luria - Nebraska Neuropsychological battery; the Wisconsin Card Sorting Test; the Benton Visual Retention Test; and Raven's Progressive Mattrices. A careful analysis of these test findings may allow for a descriptive assessment of cognitive strengths and deficits, prescriptive suggestions for treatment, and a more comprehensive understanding of the impact of the cognitive

dysfunction on the client's performance in treatment and the outcome of the rehabilitation process. Additional advantages of neuropsychological testing were voiced by Echardt & Martin (1985) who emphasized that "a neuropsychological assessment is noninvasive, relatively inexpensive, readily available, and has established clinical norms." (p. 123).

Rationale for Neuropsychological testing for clients with alcoholism

Various authors have reported that an estimated 50% of alcoholics in treatment are experiencing cognitive deficits which may interfere with the rehabilitation process (Lee et al, 1979; Parsons, 1977; and Shaw & Spence, 1985). In addition, it should be pointed out that, the neuropsychological deficits found in alcoholics have been well documented (Clifford, 1986; Goldman, 1983; Echardt & Martin, 1986; Fabian et al, 1984; Lezak, 1983; Parsons & Farr, 1981; Reitan & Wolfson, 1985; and Shaw & Spence, 1985). It is also important to note that the presenting cognitive dysfunction may not be permanent, as a significant recovery of cognitive function occurs with prolonged abstinence (Schafer et al, 1991).

The value of utilizing neuropsychological testing in addition to intelligence testing with alcoholics participating in treatment was advocated by Shaw & Spence in their review of psychological impairment assessed in alcoholics. The authors pointed out that although the mean IQ of alcoholics was within the average range, the

use of testing instruments sensitive to neuropsychological dysfunction revealed evidence of impairment. A description of some of these neuropsychological deficits associated with brain dysfunction reported by Lezak follows:

> "... difficulties in maintaining a cognitive set, impersistence, decreased flexibility in thinking, defective searching behavior, deficient motor inhibition, perseveration, loss of spatial and temporal orientation, an impaired ability to organize perceptual motor responses and synthesize spatial elements characterize the test behavior of chronic alcoholics." (p. 194)

Other authors have also reported that these above noted cognitive impairments may be manifested in alcoholics through deficient: problem solving skills; short term memory, recall and sustained concentration abilities; abstraction abilities; sustained mental activity throughout the day; visual spatial abilities; cognitive flexibility; and abilities to acquire new information (Goldman, 1983; Leber et al, 1985; McCrady & Smith, 1986; Nixon & Parson, 1991; and Schafer et al, 1991).

The level of brain dysfunction present in persons engaged in rehabilitation for alcoholism is believed to be of varying degrees (Bergman, 1987: Leber et al, 1985; Ross, 1987), and demonstrated through utilizing research findings from neuropathology, neuroradiology, electrophysiology, neuroendocrinology, and neuropsychology (Echardt & Martin, 1986). Recent concern has been voiced that cognitive deficits present in chronic alcoholics are

greater than what has been perceived through clinical observations. Clifford (1986) reported that since an alcoholics verbal skills are generally not affected and verbal reasoning appears intact, "Intellectual impairment in an alcoholic may not be obvious to a casual observer because of the retention of verbal skills which are used extensively in day to day activities and interactions" (p. 31). Clifford further noted that a more precise examination of the client though, would often reveal cognitive dysfunctioning. Several additional studies pertaining to and supporting the perspective for conducting a more precise evaluation of alcoholics in treatment will now be briefly discussed.

Robinson et al (1985) recently administered neuropsychological tests on inpatient physicians and found these subjects to possess impaired nonverbal and problem solving abilities comparable to patients who have experienced brain damage and typical older persons. These authors concluded that a neuropsychological evaluation should be an essential part of a chemical dependence treatment program. Nichelli et al (1982) compared normal subjects and chronic alcoholics without evidence of memory disorders in two tasks requiring new learning skills. These authors found that the breadth of the cognitive impairment resulting from chronic alcohol consumption is more extensive than noticed through clinical observations. Nixon & Parsons (1991) recently suggested that alcoholics may possess problem solving deficits not obvious in test protocol responses. The authors particularly indicated alcoholics may manifest subtle abstraction deficits most readily observed in tasks evaluating the alcoholic's

processing of information which determines the test response.

It should also be noted that even more severe cognitive dysfunction may go clinically unnoticed. Loberg (1986) cited two studies (i.e., Torkvik & Lindboe, 1982; Harper, 1979) which found a significant number of Wernicke's encephalopathy not being diagnosed until autopsy. Torkvik & Lindboe reported that only three of 68 cases of Wernicke's encephalopathy were diagnosed before an autopsy. Similar findings were also reported by Harper who noted only 17 of 51 cases of Wernicke's encephalopathy were diagnosed before an autopsy.

Clinician's knowledge of presenting cognitive deficits and treatment issues.

Personal discussions with a sample of alcoholism counselors who reside in the New York State area, a review of numerous available Alcohol and other Drug Assessments written by practitioners, and dialogues resulting from workshops this author has presented pertaining to neuropsychological deficits found in clients with alcoholism have revealed that these therapists rarely focus on the possibility of cognitive impairment existing within alcoholic clients. In addition, personal conversations with these practitioners also disclosed that these treatment providers are generally unfamiliar with the research literature which documents the presence of neuropsychological deficits in the alcoholic population. These discussions also indicated that treatment services are provided

by these individuals under the assumption that the alcoholics are capable of: a) adequately processing and comprehending information and the contents of various counseling formats; along with b) transferring this information and training to situations outside the counseling session.

A plausible explanation for this apparent lack of practitioner knowledge may be found in the perspective of McCrady (1987) who reported the application of neuropsychological research to treatment plans for alcoholics is limited. McCrady specifically emphasized that the abundance of neuropsychological research pertaining to cognitive dysfunction found in alcoholics has had a minuscule impact on treatment plans for alcoholics. A rationale for this perspective shared by McCrady is offered in the following statement:

> "Researchers and clinicians who work in the area of neuropsychology and those who work in the [alcohol] treatment area have had little contact, and few researchers work in the areas of both neuropsychology and treatment of alcoholism." (p. 381)

The author also reported a paucity of research data exists which examines neuropsychological impairment and the outcome of treatment.

Implications for Counseling

Neuropsychological testing not only has value for assessing cognitive impairments present in alcoholics but also may be a useful adjunct

for therapy (NIAAA, 1984). Through utilizing the testing as a diagnostic tool, clients may be assessed for their cognitive ability for actively participating in their treatment program. If a person is to benefit from an alcoholic treatment regimen which incorporates various educational and counseling formats (i.e., individual, group, family), it is essential that the client be able to assimilate and accommodate new information designed to effect prosocial behavioral change. (Brady, 1986; 1988; 1989). This perspective is shared by Goldman (1983) in his statement:

> To profit from psychological treatment, an individual must be capable of receiving new information, integrating it with existing informational stores, and then, hopefully, changing some aspect of his or her behavior. The treatment of alcoholism is no exception." (p. 1045).

Unfortunately, Shaw & Spence (1985) pointed out that various aspects of cognitive dysfunction may be observed in alcoholics engaged in treatment. These authors specifically reported that : a) a greater degree of cognitive impairment may be found in the withdrawal period; b) abstract thinking and problem solving tasks require a longer period of time to recover than verbal skills; and c) complex cognitive tasks may not return to normal. Agreement with cognitive dysfunctioning existing in alcoholics is also provided by Ron (1987) and McCrady & Smith (1986) who expressed concern that patients may not be cognitively ready for specific treatment strategies which often immediately follow detoxification. The authors emphasized that if impaired cognitive functioning is not directly accounted for within a treatment plan, patients may not be cognitively available to

effectively participate in treatment strategies that require the utilization of the cognitive abilities which are presently impaired. McCrady & Smith also related that if the patient is not evaluated for possible cognitive impairment, then the individual who is experiencing cognitive dysfunction may inadvertently be perceived "as 'unmotivated' or 'not ready to stop drinking' rather than 'impaired'" (p. 147).

Therefore the apparent assumption that the client with alcoholism is cognitively competent to participate in the rehabilitation process needs to be critically questioned by practitioners to ensure that adequate assessment and treatment plans are developed for the client. Otherwise a neuropsychologically impaired alcoholic client who does not appear to comprehend and follow through with counseling goals may inadvertently be perceived as displaying behaviors indicative of alcoholism. Through prematurely ruling out other reasonable explanations for this client behavior, the clinician may inadvertently 'alcoholize' the presenting neuropsychological symptoms as being representative of classic manifestations of alcoholism (i.e., being in denial, resistant to treatment, and unmotivated to comply with the treatment plan).

Furthermore, failure to screen for and effectively address cognitive deficits existing in alcoholic clients may not only result in the client's unsuccessful participation in the initial treatment but also the overall rehabilitation program. Especially since the level of cognitive dysfunction may also be an important variable for

predicting the outcome of alcohol rehabilitation (Gregson & Taylor, 1977; Guthrie & Elliot, 1980). Vocational and employment difficulties may arise due to these cognitive impairments if the individual is unaware of these cognitive deficits, and subsequently returns to work without being able to skillfully accomplish previous employment duties, due to diminished cognitive functioning (Hallauer et al, 1989).

An analysis of findings from a neuropsychological assessment may also provide information pertaining to a client's preferred learning style(s) and adaptive behavior skills. This knowledge may be utilized to formulate an individualized counseling plan which is sensitive to the client's presenting levels of cognitive abilities and cognitive dysfunction. Failure to consider adopting this type of a personalized treatment approach may result in the alcoholic not being cognitively competent to participate in counseling related activities adversely affected by the presenting deficits. It should also be emphasized that an awareness of an individual's neuropsychological abilities and presenting deficits has additional implications for determining the appropriateness of the following counseling formats and goals: a) the length of time alloted for the counseling session; b) the length and complexity (i.e., concrete versus abstract) of oral statements or dialogue directed towards a client; c) the level of instructional complexity of visual materials presented to the client; d) the client's ability to effectively participate in group therapy via focused attention and sustained concentration on other participants for a specified period of time;

e) providing an appropriate environmental setting which enhances the client's ability to remain focused on the contents of the counseling session (e.g. well lighted and free from extraneous auditory and visual stimuli); and f) preparing clients for the return to their previous or to different employment along with management of other expected daily living activities; and g) the time of the day counseling is offered to avoid neuropsychologically based client fatigue (Brady, 1986; 1988; and 1989).

Recommendations

1) Due to reported variability in cognitive dysfunction found in alcoholics, serious consideration should be given to viewing these clients in treatment as being diverse in their abilities to cognitively process information. Therefore it seems reasonable that the incorporation of specific neuropsychological assessment measures within an alcohol and other drug evaluation be considered an essential component for all alcohol and other drug use assessments and treatment plans. Especially since an estimated 50% of alcoholics in treatment are experiencing varying cognitive deficits which may interfere with the overall rehabilitation process.

2) Fostering information sharing between treatment providers employed in the Head Injury field and the Alcohol and other Drug area is highly encouraged. In addition, individual and

family counseling along with cognitive rehabilitation strategies utilized for head injured patients should be examined for their possible applications with alcoholics who present with both temporary and permanent neuropsychological deficits.

3) A counseling plan be designed to address the client's known learning style(s) and level of cognitive dysfunction. Failure to adopt a personalized treatment approach may result in the alcoholic not being cognitively competent to participate in desired counseling related activities.

4) Research related to practitioners who provide alcohol and other drug assessments and treatment should be conducted to better evaluate these practitioners knowledge of cognitive deficits and the related counseling implications of presenting temporary or permanent cognitive dysfunctions.

5) Detoxified clients should not be immediately and automatically sent to an intensive four to five week inpatient treatment program. A closely supervised waiting period after detoxification should be considered for clients who do not demonstrate via neuropsychological testing that they are cognitively competent to participate in an intensive education and counseling related rehabilitation program.

6) Consideration should be given to requiring clients with a

documented record of driving under the influence of alcohol/driving while intoxicated convictions to participate in a neuropsychological screening and an occupational therapy assessment for the purpose of evaluating the client's skill levels related to driving a motor vehicle. Especially since safe driving skills require the following neuropsychologically related abilities: effective decision making and problem solving skills; appropriate, precise, and timely fine and gross motor coordination; and adequate visual and auditory information processing skills.

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